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ABSTRACT

Despite the disagreements among personality theorists on methods of testing for masculine and feminine traits, recent investigations tend to support the belief that females who compete in athletics at a highly competitive level have more masculine traits than their nonathletic counterparts. To determine whether studies done on a regional basis can be generalized, a study of women athletes in Kentucky used several methods of analysis in testing for the existence of masculine and feminine traits. Using the Personality Attributes Questionnaire, 159 women were tested: (1) varsity athletic team members from Vanderbilt University; (2) varsity athletic team members from Western Kentucky University (WKU); (3) elementary education majors at WKU; and (4) members of teams in a city recreation league. It was found that elementary education majors had the lowest mean score on the masculine scale, while members of a black softball team from the city recreation league had the highest scores in masculinity. Other findings suggest that twice as many WKU athletes had a high score in masculine traits compared to the Vanderbilt and city recreation league athletes, making it appear likely that WKU athletes face less disapproval than women in the other programs. (PG)

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A COMPARISON OF PERSONAL ATTRIBUTES REGARDING MASCULINITY, FEMININITY AND ANDROGYNY AMONG FEMALE ATHLETES

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A COMPARISON OF PERSONAL ATTRIBUTES REGARDING
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Throughout its history, sport has been almost universally viewed as a masculine endeavor, and females have generally been discouraged, if not actually prohibited, from engaging in it. One major reason for this appears to be the widespread belief that participation in sport would result in the psychological, behavioral and physical masculinization of females (Harris, 1973; Kennicke, 1973; Sherif, 1973; Snyder & Kivlin, 1977). Since most females tended to adhere to society's expectations in this matter, there was no real evidence to either support or refute this belief.

During the twentieth century, and particularly during the past two decades, there has been a tremendous increase in the number of girls and women who are actively and seriously involved in competitive sport. In 1973, for instance, it was estimated that 800,000 high school girls were competing on intersholastic teams (Broyles & Hay, 1979). According to Forsythe and Keller (1979), the number of high school girls participating in athletics increased by 300% between 1971 and 1977. The number of college women engaged in varsity level sport also increased at a rapid rate during this period. The

number of women participating in varsity basketball at NCAA member institutions increased from 4,253 in 1966-67 to 10,859 in 1976-77. In 1980 there were 1770 two and four-year institutions sponsoring varsity athletic programs for women with an average of five sports per school (Third annual sports participation survey, 1980). In addition to the girls and women participating in interscholastic and intercollegiate programs, there are many thousands of females participating in non-school programs such as AAU, city and county recreational leagues and industrial leagues.

Thus it appears that more and more females are either no longer accepting the beliefs about the masculinizing effects of competitive sport, or they simply are not concerned with the consequences. Harris (1973) has suggested that, with regard to participation in sport, there are three types of females: (a) those for whom participation in sport poses no psychological threat because they are quite secure in their own femininity, (b) those for whom any activity or behavior that might be considered unfeminine must be avoided, due to their insecurity concerning their femininity, and (c) those who resent or do not care about their femininity and who, therefore, may participate in sport without risk to their self-concept. Harris also concluded that participation in sport has not resulted in the loss of those feminine traits valued by our society.

This view may be the result of society's changing view of the nature of masculinity and femininity and the restrictions imposed by a rigid system of sex-roles, for there is still relatively little evidence concerning the effects of competition in sports on this, or any other, dimension of the personality. In fact, it has been proposed (Ogilvie & Tutko, 1971) that the competitive sport experience does not appreciably alter an individual's personality, but that the sport selection process tends to "weed out" those individuals who do not possess certain traits. This opinion is dependent, in part, upon the theory of traitism, which is the traditional theory of personality.

According to Thomas (Note 1), the theory of traitism is a theory of rigid, unchanging patterns of behavior, attitudes and interests. More recently, however, two new views of personality have emerged. The first is the theory of situationism, which holds that the vast majority of variance among individuals is due to differences among situations, rather than due to differences among individuals. The other new view is a combination of traitism and situationism, called interactionism. The proponents of this view maintain that both stable characteristics (traits) and differences among situations contribute to the total variance among individuals. It seems apparent that any hypothesis concerning the effects of participation in

competitive athletics on any aspect of the personality would have to be based upon one of these theories.

Despite this disagreement among personality theorists, there have been a number of attempts at measuring and comparing the personality structures and various dimensions of the personality of many different athletic groups. Most often investigators used one or more paper and pencil tests purported to measure these traits. Several of these general personality tests include a scale designed to assess the masculinity-femininity dimension (Harford, Willis, & Deabler, 1967; Heston, 1948; Nance, 1949). There are also several paper and pencil tests designed specifically as measures of the masculinity-femininity dimension of the personality. The most widely used are the Gough Femininity Scale (Gough, 1952), Kuder's Preference Record, the Depauw Adjustment Inventory (Heston, 1948) and the Attitude-Interest Analysis by Terman and Miles (Nance, 1949).

Several investigators have used one or more of these scales in studies involving female athletes or females majoring in physical education. Clarke (1953) found that women majoring in physical education were significantly more masculine than the college norm on the interest scale of the MMPI. Women physical education majors were compared with education majors by Landers (1970) using the M-F scale of the MMPI and the Gough Scale of Psychological Femininity.

He found that the physical educaion majors were significantly lower in femininity on both tests. A follow-up analysis of eleven clusters of items resulted in significant differences on only two clusters. Education majors were more restrained and cautious and held more religious beliefs than the physical education majors. A group of college women characterized as "most athletic" were found by Black (Mushier, 1979) to be more masculine than the norm for college women. Snyder and Kivlin (1977), using a scale designed to tap sex-role orientation, found that a sample of female athletes drawn from the AIAW National Championships in basketball, gymnastics, track and field and swimming and diving, and a group who participated in the 1972 Olympic tryouts in gymnastics, responded in a more traditional direction than a group of female non-athletes.

It has been the assumption of most personality theorists, when developing their masculinity-femininity scales, that males are achievement oriented, aggressive, active, cool, hard-headed, self-centered and confident, and that females are affectionate, dependent, passive, gentle and sensitive (Bardwick, 1972; Constantinople, 1973). If this assumption is correct, then some of the research related to these traits among female athletes seems pertinent. Competitive fencers were found to be more self-sufficient, autonomous, aggressive and assertive, and lower in n-affiliation and n-nurturance

than national norms on the Cattell 16 PF and the Edwards Personal Preference Schedule (Williams, Hoepner, Moody & Ogilvie, 1970). Neal (Mushier, 1979) found that women who participated in the 1959 Pan American Games were higher on the following scales of the EPPS: n-achievement, n-autonomy, n-affiliation and n-nurturance. International class tennis players, according to Kane & Callahan (1965), were more emotionally stable and self-confident, and showed less frustration than national class players. British women Olympians were very similar to the international class tennis players, and were also more outgoing, happy-go-lucky, expedient, extroverted and anxious than the norm for the 16 PF (Kane, 1973). Kane has also concluded that top female athletes exhibit personality structures that are very similar to those exhibited by top male athletes.

These data must be interpreted cautiously, however, in light of the current theoretical turmoil in the personality domain, and particularly in view of the theories of situationism and interactionism. Moreover, in the past decade, the M-F dimension of personality has itself been reconceptualized and these new concepts must be considered. For example, Constantinople (1973) maintains that despite "its long history in psychological discourse" the terms masculinity and femininity "seem to be among the muddiest concepts in the psychologist's vocabulary" (p. 370). She has

suggested that the traditional tests of masculinity and femininity are inadequate on two counts: (a) the concept of bipolarity may be invalid and (b) it appears that the construct is multidimensional and therefore might be dealt with more efficiently through the use of multidimensional analysis. Furthermore, Spence and Helmreich (1978) have questioned the procedures used to establish the construct validity of these traditional M-F scales. The ability of an item to distinguish between males and females and/or between sexual deviates and normal individuals has typically been the basis for its inclusion on the test. Recent research has indicated that M-F attributes are only weakly related to sex-role behaviors within-sex in our society, which casts serious doubts upon the tests themselves.

The most serious weakness of the traditional measures of M-F is undoubtedly the fact that they are based upon the belief that the M-F construct represents a single, bipolar dimension of personality. In other words, masculinity and femininity have been considered to be opposites: the presence of a masculine trait, behavior or interest was thought to preclude the presence of the "opposite" trait, behavior or interest, and the possession of a feminine attribute automatically meant that the "opposite" masculine attribute was not present in the individual. According to Bem (1974), such a dichotomy "obscures two very plausible

hypotheses" (p. 155): (a) that a person may react in one way (i.e. yielding) in one situation and another way (i.e. assertive) in another situation and (b) that being strongly sex-typed in one's behavior may be seriously limiting to the individual. Individuals who are strongly sex-typed tend to suppress behaviors that they, or society, view as inappropriate for persons of their sex. Bem's views are consistent with either the theory of situationism or the theory of interactionism.

Spence and Helmreich (1978) and Bem (1975) have expressed the opinion that the concept of bipolarity should be discarded, or at least minimized, in any serious consideration of psychological masculinity and femininity, and they have developed tests for the measurement of these dimensions separately. They have also presented the theoretical foundation and supporting data for a construct which they call "androgyny". Androgyny, as concieved by Bem, and by Spence and Helmreich, is not a separate construct from masculinity and femininity, but is based upon the idea that masculinity and femininity are separate constructs, both of which are an integral part of each individual's personality, and which vary independently within individuals. This view is based largely on the work of Bakan (1966) who proposed that humans possess two inner psychological natures: the "sense of agency" and the "sense of communion" (p. 14).

Agency is best characterized as being a sense of self or concern for one's own well-being, while communion is seen as a sense of being at one with others or having concern for the welfare of others. Masculinity is characterized as having at its core the sense of agency, while the core of femininity consists of the sense of communion. It is the view of Bakan, and Spence and Helmreich, that all individuals possess some degree of both the sense of agency and the sense of communion. Androgyny is characterized as the fusion or integration of these two senses within the individual. An androgynous individual is one who is able to engage in the most situation-appropriate behavior without threat to his/her self-concept. The androgynous individual is seen as the truly psychologically healthy individual, as opposed to the strongly sex-typed individual, whose behaviors must be consistent with certain rigid, preconceived notions as to what is appropriate behavior for a male/female.

The Personal Attributes Questionnaire (PAQ) developed by Spence and Helmreich (1978) is based upon the assumption that masculinity and femininity are separate dimensions and that persons who score high in both dimensions may be classified as androgynous. Spence and Helmreich have also introduced the concept of the "undifferentiated" individual, this being an individual who possesses a low degree of both masculinity and femininity. The method of classifying

individuals into the four possible categories (masculine, feminine, androgynous and undifferentiated) is based upon their scores on the M scale and the F scale and upon the median of the group, or a reference group, on each of these scales. The PAQ also measures a dimension termed M-F, which is purported to measure "cross-sex" behavior and attitudes. This scale is composed of items that are viewed by our culture as appropriate for one sex but not appropriate for the other under all or nearly all circumstances.

Although their major thrust has been the development of the test, its validation, and the development of norms, Spence and Helmreich have reported the results of one investigation involving female athletes (p. 68). They found that varsity women athletes at The University of Texas at Austin were somewhat lower in femininity and higher in masculinity than the general college female. These athletes also scored somewhat higher on the M-F scale than the norm. When categorized by the split-median test, the majority of these athletes were classified as either androgynous or masculine, with a much smaller percentage being classified as either feminine or undifferentiated (Table 1).

Wilcoxon (1978), who administered the PAQ to 75 female varsity athletes at Arizona State University, reported very similar results based upon the split-median method of classification for the total sample. More of these athletes

Table 1

Percentage of Female Athletes and General College Females Classified into Four Subgroups by the Split-Median Method

Group	A	M	F	U
Female Athletes	39	31	10	20
General College Females	27	14	32	28

A: Androgynous

M: Masculine

F: Feminine

U: Undifferentiated

were androgynous than masculine, however. Slight differences were found between groups when the individual sport athletes were compared to the team sport athletes in her sample (Table 2).

The results of these investigations tend to support the belief that females who participate in athletics at a highly competitive level are higher in masculinity and lower in femininity than their non-athletic counterparts. The fact that more of the athletes were classified as androgynous when the split-median classification system was utilized is certainly in line with the theoretical assumption that androgynous individuals are capable of engaging in cross-sex behavior, since participation in sport is still more acceptable for males than it is for females in our culture.

The data presented by Spence and Helmreich and by Wilcoxon are from the southwestern region of the U.S., which is considered by many to be considerably more liberal than some other regions of the country, particularly the southern states. For this reason, and because no statistical analyses were presented, it is not known to what extent these data are generalizable to other parts of the country which may be more, or less, liberal in their attitudes toward females participating in sport. Therefore, this investigation was undertaken in order to determine whether female athletes in the southern region of the U.S. would exhibit the same charateristics as the two groups in these studies.

Table 2

Percentage of Arizona State University Female Athletes Classified into Four Subgroups by the Split-Median Method

Group	A	M	F	U
All Athletes	36	40	11	13
Individual Sport Athletes	37	41	10	12
Team Sport Athletes	35	38	12	15

A: Androgynous

M: Masculine

F: Feminine

U: Undifferentiated

The purpose of this investigation was to determine whether significant differences in masculinity and femininity existed among eleven subgroups from the following groups: (a) female athletes from a private university in Tennessee, (b) female athletes from a state supported university in Kentucky, (c) female athletes from city recreational leagues in Kentucky and (d) females majoring in elementary education at a state supported university in Kentucky. A further purpose was to determine whether significantly more athletes than non-athletes would be classified as androgynous and/or masculine when the split-median method of classification was used.

The Personal Attributes Questionnaire (PAQ) was administered to 159 women. Of these, 32 were members of varsity athletic teams at Vanderbilt University, 39 were members of varsity athletic teams at Western Kentucky University, 49 were members of teams competing in city recreational leagues in Bowling Green, Kentucky and 39 were elementary education majors at Western Kentucky University. The distribution of athletes by sport is shown in Table 3.

Three separate ANOVAs were utilized to test for the significance of the differences among groups on the M scale, the F scale and the M-F scale. Table 4 is a summary of the results of each of these analyses. Differences among groups on the M scale were significant beyond the .01 level of

Table 3

Distribution of Athletes by

Sport and Source

Group	N
City Recreational Leagues	
Black Softball Team	9
White Softball Team	12
Bowlers	28
Vanderbilt University	
Basketball Team	13
Swimming Team	13
Volleyball Team	6
Western Kentucky University	
Basketball Team	14
Track & Field Team	15
Gymnastics Team	10

Table 4

Error Sources and F-Ratios Among Groups on the M Scale, M-F Scale and F Scale of the PAQ

Scale	Source	SS	df	MS	F-Ratio
M Scale					
	Between Groups	551.83	10	55.18	3.73*
	Within Groups	2,206.51	149	14.81	
	Total	2,758.34	159		
M-F Scale					
	Between Groups	365.5	10	36.55	2.39**
	Within Groups	2,279.68	149	15.29	
	Total	2,645.18	159		
F Scale					
	Between Groups	209.08	10	20.91	1.27
	Within Groups	2,454.29	149	16.47	
	Total	2,663.37	159		

* Significant beyond the .01 level

** Significant beyond the .05 level

confidence, therefore Duncan's New Multiple Range test was employed in order to determine specific differences. The results of this test indicated that the only significant difference was between the elementary education majors, who scored the lowest on the M scale, and the Black softball players, who scored the highest on this scale. A significant difference was also found among groups on the M-F scale, although this reached only the .05 level of confidence. Again the elementary education majors had the lowest mean and they differed significantly from the two groups of softball players, who had the highest means (Table 5). Differences among groups on the F scale were not significant.

In order to analyze the differences in androgyny among groups, it is first necessary to classify the subjects into the four categories by use of the split median method. If the sample was not composed of approximately one-half males and one-half females, then the medians of a reference or norm group must be used. For this investigation, the medians of the general college students reported by Spence and Helmreich (1978, p. 36) were used. The median scores for this reference group were: M scale = 21, F scale = 23 and M-F scale 15. The percentage of each group that were classified into each of the four categoies may be seen in Table 6.

Table 5

Means for Female Athletes and Non-Athletes

On the Three Scales of the PAQ

Groups	M Scale	M-F Scale	F Scale
City Recreational Leagues			
Black Softball Team	25.22	17.22	22.33
White Softball Team	23.08	16.33	23.00
Bowlers	22.39	14.61	24.28
Vanderbilt University			
Basketball Team	22.54	14.85	23.85
Swimming Team	23.08	15.23	22.23
Volleyball Team	23.50	16.33	22.33
Western Kentucky Univ.			
Basketball Team	22.78	14.71	23.86
Gymnastics Team	22.60	14.90	24.70
Track Team	21.47	14.33	24.20
W.K.U. Elem. Ed. Majors			
Prev. Varsity Exper.	20.33	14.17	23.50
Non-Athletes	18.61	11.88	25.79

Table 6

Percentage of Female Athletes and Non-Athletes Classified into Four Subgroups by the Split-Median Method

Group	A	M	F	U
City Rec. L. Athletes	53	29	10	8
Vanderbilt U. Athletes	44	28	9	19
W.K.U. Athletes	46	15	23	15
W.K.U. Non-Athletes	28	5	54	13

In order to determine whether significantly more athletes than non-athletes were classified into any of the four categories, the value of chi square was calculated. This analysis was made with the original four groups, rather than by teams, in order to meet the underlying assumptions of this statistical procedure. The value of chi square for these data was 34.09, which, with 9 df, is significant beyond the .01 level of confidence. The greatest deviations from the expected frequencies were: (a) more elementary education majors than expected were classified as feminine, (b) fewer Vanderbilt University and city recreational league athletes than expected were classified as feminine, (c) fewer elementary education majors than expected were classified as masculine, (d) more city recreational league athletes than expected were classified as masculine, (e) fewer elementary education majors than expected were classified as androgynous and (f) more city recreational league athletes than expected were classified as androgynous.

The fact that the elementary education majors had the lowest mean score on the M scale and on the M-F scale is not surprising, since they represent a traditionally "feminine" career group. It is surprising, however, that the only groups that differed from them were the Black softball team, on both the M and M-F scales, and the White softball team, on the M-F scale. There are two factors which may bear on these results.

First, the women participating in the city league programs were doing so without the types of support usually afforded the college varsity athlete. This support includes not only financial sponsorship, but also identification as a valued activity of the institution. Thus the city league women participate in spite of some of the difficulties involved, and sometimes, in spite of cultural inhibitions against such participation. The city league athlete, then, may consider herself to be, and be considered by others to be, more of a "rebel" than her counterpart in the collegiate ranks.

This view is consistent with the data, in that the city league bowlers did not differ significantly from the elementary education majors or any of the college athletes. The sport of bowling is generally considered to be much more appropriate for women in our society than is softball. This view is also consistent with Harris' model, in that women who either resent or do not care about their femininity would be more likely to defy society and participate in an activity that is not considered acceptable, even at some expense to themselves. This also relates to the second factor, which is the view that many people in our culture hold regarding women who participate in softball: that is, that they are highly masculine, or at least, less feminine than most females. Both of these factors, taken together, may account for the differences observed on the M and M-F scales.

In analizing the results of the classification of groups by the split-median method, another rather surprising result was observed. Only about one-half as many Western Kentucky University athletes as Vanderbilt University and city league athletes were classified as masculine. There were also almost twice as many W.K.U. athletes as V.U. and C.R.L. athletes classified as feminine. In comparing the results of this study with those of Spence and Helmreich, and Wilcoxon (Table 7), these same disparities are apparent. If the previous speculation concerning participation in the face of disapproval has any merit, it would appear that the W.K.U. athletes face less disapproval than the women participating in these other programs.

This is a rather difficult position to accept, due to the fact that the State of Tennessee, where Vanderbilt University is located, has a long history of competitive high school athletics for girls, and the other universities are located in more liberal regions of the country. Kentucky, on the other hand, has had a rather limited high school girl's athletic program until the past decade. In fact, no state championships in basketball had been held in Kentucky for more than thirty years until they were mandated by the state legilature in 1974. Comparison of the mean scores of the two basketball teams reveals that the differences on the three scales of the PAQ are very small, thus apparently

negating the speculation concerning disapproval. Harris' model may still shed some light on this, however. It is possible that the women classified as feminine in all of the athletic groups are those women who are secure enough in their own femininity that they are not threatened by any societal disapproval of their chosen athletic endeavor. It should be mentioned, also, that the acceptance of high school girls' basketball in Kentucky was instantaneous and almost overwhelming when the programs were initiated. This acceptance of this activity at the high school level may have resulted in the female athlete's concept of this sport, at least, as one which society does not disapprove. This then, could explain why a higher number of women classified as feminine could continue their athletic participation during their college years without threat to their self-concept.

Regardless of the reasons, there is little doubt that the Western Kentucky University athletes are at least somewhat different from the other groups of athletes in terms of their masculinity and femininity. Further research is pbviously needed if we are to fully understand the relationship between the masculinity, femininity and androgyny of females and their participation in competitive athletics. Longitudinal studies involving high school and college athletes would certainly help provide some answers and would also help us determine whether participation in athletics is a factor in changing this aspect of personality.

Table 7

Percentage of Female Athletes from Four Universities and a City Recreational League Classified into Four Subgroups by the Split-Median Method

Group	A	M	F	U
Arizona State U.	36	40	11	13
U. of Texas	39	31	10	20
Vanderbuilt U.	44	28	9	19
Western Kentucky U.	46	15	23	15
City Rec. League	53	29	10	8

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